

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A computer-implemented method for determining parameters of an equivalent circuit representing a transmission section of an electrical network, where the transmission section is representable as having at least two interfaces with other sections of the network, wherein the method comprises the steps of

a) ~~determining, for each of the~~ measuring, by means of at least two synchronized phasor measurement units residing at each of the at least two interfaces a voltage phasor at the interface and a phasor of a current flowing through the interface, measurements at the different interfaces being made essentially simultaneously, and

b) computing, from said voltage and current phasors, values of impedances constituting the equivalent circuit; and

(c) displaying changes in the equivalent circuit based on the computed values of impedances.

2. (Previously Presented) Method according to claim 1, wherein the transmission section is a transmission corridor having exactly two interfaces to other sections of the network.

3. (Previously Presented) Method according to claim 2, wherein a first interface connects the transmission corridor to a network section consisting predominantly of power generators, and a second interface connects the transmission corridor to a network section consisting predominantly of power consumers.

4. (Previously Presented) Method according to claim 2, wherein the transmission network is represented by one of a T-equivalent and a π -equivalent circuit.

5. (Previously Presented) Method according to claim 3, comprising the further step of computing parameters of a Thévenin equivalent of a network constituted by the transmission section and by the network section consisting predominantly of power generators.

6. (Previously Presented) Method according to claim 1, wherein the transmission section comprises three or more interfaces to other sections of the network and the equivalent circuit comprises line impedances interconnecting the interfaces and shunt impedances connecting the interfaces to a common node.

7. (Previously Presented) Method according to claim 1, wherein at least one interface comprises at least two physical power lines, and the voltage phasor at the interface is determined as a weighted sum of the voltages at the power lines.

8. (Previously Presented) Method according to claim 7, wherein a current phasor representing a current through the interface is computed from the voltage phasor at the interface and a power flow through the power lines constituting the interface.

9. (Currently Amended) A computer program embodied on a computer readable medium for determining parameters of an equivalent circuit representing a transmission section of an electrical network having at least two interfaces with other sections of the network, which computer program is loadable and executable on a data processing unit and which computer program, when being executed, performs the steps ~~according to claims 1 and 8~~ of computing, from essentially simultaneous measurements at each of the different interfaces of a voltage phasor at the interface and a phasor of a current flowing through the interface, values of impedances constituting the equivalent circuit.

10. (Previously Presented) Data processing system for determining parameters of an equivalent circuit representing a transmission section of an electrical network comprising means for carrying out the steps of the method according to claim 1.

11. (Previously Presented) Method according to Claim 1, wherein the transmission section is a transmission corridor having exactly two interfaces to other sections of the network, and wherein a first interface connects the transmission

corridor to a generation section comprising power generators, the method comprising:

computing, from values of impedances constituting an equivalent circuit representing the transmission section and from a Thévenin equivalent of the generation section, parameters of a second Thévenin equivalent of a network constituted by the transmission section and by the generation section.

12. (Previously Presented) Method according to claim 11, comprising:
performing a stability analysis of the electrical network based on the second Thévenin equivalent.

13. (Canceled).

14. (Canceled).